Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An optoelectronic component comprising:

a semiconductor device comprising ~~at least one~~ radiation-sensitive zones configured to detect electromagnetic radiation; and

an optical element configured to focus the electromagnetic radiation in the ~~at least one~~ radiation-sensitive zones, [[;]] the optical element comprising a ~~diffractive element~~ zone plate having structures with sizes on an order of magnitude of a wavelength of the electromagnetic radiation, and

wherein the radiation-sensitive zones are at varying distances from the optical element such that radiation-sensitive zones configured to detect shorter wavelengths of the electromagnetic radiation are at greater distances from the optical element compared to radiation-sensitive zones configured to detect longer wavelengths of the electromagnetic radiation.

2. (Canceled)

3. (Currently Amended) The optoelectronic component of claim 1, wherein the ~~diffractive element~~ zone plate is incorporated in the semiconductor device.

4. (Currently Amended) The optoelectronic component claim 1, wherein [[the]] at least one of the radiation-sensitive zones is configured to detect electromagnetic radiation having a wavelength between about 100 nm and about 5 micron.

5. (Currently Amended) The optoelectronic component of claim 4, wherein [[the]] at least one of the radiation-sensitive zones is configured to detect electromagnetic radiation in the visible spectral region having a wavelength from about 400 nm to about 800 nm.

6. (Currently Amended) The optoelectronic component of claim 1, wherein a distance between the ~~diffractive element~~ zone plate and ~~the~~ at least one of the radiation-sensitive zones is less than about 20 micron.

7. (Currently Amended) The optoelectronic component of claim 1[[2]], wherein:

a first one of the radiation-sensitive zones is configured to detect radiation with a wavelength lambda (λ); and

the zone plate is at a distance R from the first one of the radiation-sensitive zones and has a diameter D, wherein for a Fresnel number F of the zone plate: $F = \left(\frac{D^2}{\lambda R}\right) > 1$.

8. (Previously Presented) The optoelectronic component of claim 7, wherein a focal length of the zone plate for radiation with wavelength of about 550 nm is from about 1 micron to about 20 microns.

9. (Canceled)

10. (Currently Amended) The optoelectronic component of claim 1[[9]], wherein the radiation-sensitive zones are ~~disposed~~ in corresponding focal planes of the ~~diffractive element~~ zone plate for corresponding colors.

11. (Currently Amended) The optoelectronic component of claim 10, wherein the ~~at least on~~ radiation sensitive zones comprise[[s]]:

a first radiation-sensitive zone in a focal plane of the ~~diffractive element~~ zone plate for wavelengths associated with red visible light;

a second radiation-sensitive zone in a focal plane of the ~~diffractive element~~ zone plate for wavelengths associated with green visible light; and

a third radiation-sensitive zone in a focal plane of the ~~diffractive element~~ zone plate for wavelengths associated with blue visible light.

12. (Currently Amended) The optoelectronic component of claim 1, wherein the ~~diffractive element~~ zone plate comprises a layer included in the semiconductor device.

13. (Previously Presented) The optoelectronic component of claim 12, wherein the layer comprises a metallic layer.

14. (Currently Amended) The optoelectronic component of claim 1[[2]], wherein the zone plate comprises a first transparent material having an index of refraction (n_1) and a second transparent material having an index of refraction (n_2), n_1 being different than n_2.

15. (Currently Amended) The optoelectronic component of claim 14, wherein the first transparent material comprises a silicon oxide and the second transparent material ~~material~~ comprises a silicon nitride.

16. (Currently Amended) The optoelectronic component of claim 1, wherein the ~~diffractive element~~ zone plate comprises a structured layer included in the semiconductor device.

17. (Previously Presented) The optoelectronic component of claim 16, wherein the semiconductor device comprises an integrated circuit.

18. (Currently Amended) A method comprising:

using a zone plate to focus electromagnetic radiation into ~~one or more~~ radiation-sensitive zones of a radiation-detecting semiconductor device,

wherein the radiation-sensitive zones are at varying distances from the zone plate such that radiation-sensitive zones configured to detect shorter wavelengths of the electromagnetic radiation are at greater distances from the zone plate compared to radiation-sensitive zones configured to detect longer wavelengths of the electromagnetic radiation.

19. (Currently Amended) The method of claim 18, wherein using the zone plate to focus electromagnetic radiation into ~~one or more~~ the radiation-sensitive zones comprises:

using the zone plate to focus electromagnetic radiation with wavelengths associated with red visible light into a first radiation-sensitive zone;

using the zone plate to focus electromagnetic radiation with wavelengths associated with green visible light into a second radiation-sensitive zone;

using the zone plate to focus electromagnetic radiation with wavelengths associated with blue visible light into a third radiation-sensitive zone.

20. (Previously Presented) The optoelectronic component of claim 1, wherein the semiconductor device comprises a semiconductor chip.